

REMARKS

Applicant has carefully reviewed the above identified application in light of the Office Action dated December 12, 2001. Claims 1-8 are now presented for examination. Claim 1 is the only independent claim.

The specification and drawings have been carefully reviewed and amended as to matters of form, including those kindly pointed out in the Office Action. The Abstract of the Invention has been objected to as being too long. With regard to the abstract of the invention, Applicants have amended the abstract to comply with the length requirements of MPEP § 608.01(b).

The drawings have been objected to because "where is the structure on page 22 lines 4-9, i.e. the portions 10... 1"? The Figures and description are inconsistent, e.g. 37 is described as a transfer layer yet see Figure 6(b); 14 denotes two different elements, in Figures 11(a) and (b), structure is described as 55 whereas in Figures 13(a) and (b) the same structure is denoted as 33. Applicants have amended the Figures and /or specification to correct the noted errors.

The disclosure is objected to because on page 1, lines 3-4, "copending" should be deleted. On lines 4-6, "," should be deleted. On line 5, "Continuation-in-Part" should be "continuation in part". Applicants have amended page 1 to correct the noted errors.

The Summary of the Invention section is inconsistent in scope with the claims. Applicants have amended the Summary of the Invention section to be consistent in scope with the claims.

On page 16, lines 1-21, should numerals 47 and 6 be deleted?

On page 19, line 10, "Figure" should be "Figures"

On page 27, line 19, "48" should be "47".

On page 33, line 24, after "portions", 55 should be inserted for "55".

On page 37, line 13, "46" should be "47".

Applicants have made the above described amendments to the specification.

Claims 1-7 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,234,422 (Sneller). Applicant respectfully traverses.

The present invention, as defined by independent claim 1 is directed to a novel absorbent product having compliant side cuffs that extend along the lateral edges of the product. More particularly, the absorbent article comprises, inter alia, right and left cuffs, each cuff comprising an inner layer comprising a strip of resilient, highloft, fluid permeable material, and an outer layer comprising a flexible, fluid repellent porous material, said outer layer substantially covering said inner layer (emphasis added). It is an important consideration in the present invention that the side cuffs comprise an inner layer which comprises a strip of high loft material and a outer layer which comprises a flexible, fluid repellent porous material and wherein said high loft material is covered along a substantial portion thereof by said outer layer.

The side cuffs formed in accordance with the present invention have been found to provide enhanced lateral support to the absorbent article and when worn by a user in the perineal area of the user's body bears against the user's body in a comfortable manner. This construction has also been found to advantageously prevent or inhibit lateral leakage of fluid from the cover of the absorbent article past the lateral side edges. It is respectfully submitted that the cited reference does not disclose or fairly suggest a sanitary absorbent article having side cuffs which comprise high loft material covered by a flexible, fluid repellant, porous material.

As understood by Applicant, Sneller relates to forming a cuff by the use of an elastomeric inner layer with a coverstock material (which may be a high loft material) on the outside. Sneller fails to teach or suggest the feature of the present invention wherein the cuff comprises an inner layer of high loft material.

Applicant has carefully reviewed all of the passages within the Sneller patent that were cited by the Patent Office and has not found any teaching or suggestion for the use of a high loft nonwoven material as an inner layer of cuff. Accordingly, applicants submit that the present invention, as defined by independent claim 1 is considered to be patentable over Sneller et al.

Claims 1-4, 7 and 8 were also rejected under 35 U.S.C. § 102(b) as anticipated by European Patent Appln. No. 0 534 488 (Menard). Applicant respectfully traverses.

As understood by Applicant, Menard discloses a sanitary napkin having compliant cuffs that form gaskets in use between the napkin

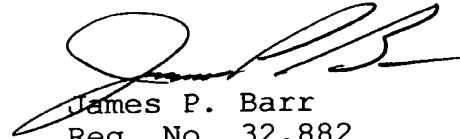
and a user's body. The only embodiment that utilizes a high loft nonwoven material is shown in Figures 5 and 6(a) and is more fully discussed at column 8, lines 15 to 39. As disclosed therein, the compliant cuff may be formed from a strip of material 48 which includes a high loft polyester. However, referring to Figure 6(a) it is apparent that the high loft layer 48 is an outer layer, nor is it substantially covered by a flexible, fluid repellent, porous material as required by the present pending claimed invention. There are no other embodiments within this reference that disclose the use of a nonwoven material to form the compliant side cuffs. Accordingly, the present invention is considered to be patentable over Menard et al.

A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as references against claim 1 herein. This claim is therefore believed patentable over the art of record.

The other claims in this application are each dependent from independent claim 1 discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of the patentability of each on its own merits is respectfully requested.

Reconsideration and allowance of the pending claims is accordingly respectfully requested.

Respectfully submitted,



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Version with Markings to Show Changes

In the Abstract of the Disclosure:

Please re-write the Abstract of the Disclosure as follows:

An absorbent article is provided for use in the perineal area of the body. Compliant sealing cuffs are pre-formed to extend outward from the central portion of the article. The cuffs may be formed by looping a strip of resilient highloft material covered with a porous material so as to form a compliant cuff which bears against the user's body in a comfortable manner. An elastic member placed in tension so as to impart an arcuate shape to the article may be placed inside a cavity formed by the cuff. The cuffs may be applied to an article having wings attached to the central portion so as to form pockets for retaining the elasticized portions of the panty crotch. [The proximal ends of the cuffs are disposed outward of the pockets and the distance between the pockets is less than the width of the panty crotch so that the body faceable side of the article is placed in tension.]

In the Specification:

On page 1, beginning at line 3, please re-write the first paragraph as follows:

This application is a [continuation-in-part of co-pending] continuation in part of application[,] serial number 09/108,483, now abandoned which is a [Continuation-In-Part] continuation in part of application[,] serial number 08/522,876, now abandoned.

On page 27, please re-write the last paragraph as follows:

According to another embodiment of the current invention, the cuff 6 may be attached to the absorbent article, preferably to the flanges of the absorbent article, in a configuration so as to form a loop which encloses a cavity 36 , discussed further below. The loop configuration of the cuff 6 provides a compliant gasket effect while the combination of high loft resilient material [48] 47 with fluid [repellant] repellent porous cover material provides a clean dry appearance to the absorbent article. Thus, the rigidity and directional stability provided by the resilient high loft material in the cuff 6 is not obtained at the detriment of comfort. Specifically, the distal ends 13 of the cuffs are readily deformed by an inward force 37, imparted by the user's thigh which act in the plane of the cuff, as shown in Figure 8. The force 37 is elastically absorbed by the flexure resistance of the high loft material in the compliant cuff which permits a bending deformation of the loop which flattens the cavity 36 , as shown in Figure 6(b). In this manner the cuff 6 remains in sealing contact with the body throughout a range of motion due to the resilient, flexure resistant nature of the high loft material. Moreover, the compliancy of the cuff 6 can be varied by adjusting the size and shape of the cavity 36 , and the thickness and resilience of the high loft material.

On page 28, please re-write the last paragraph as follows:

As shown in Figure 5, in the longitudinal middle section of the absorbent article having an optional transfer layer [37] 67, between the cover 2 and the absorbent core 7, the cuffs 6 extend outward from the lateral sides of the absorbent article and are preferably maintained within the plane of the base portions of the cuff. That is it is preferred that the cuffs remain

Please delete the paragraphs beginning on page 8, line 10 through page 12, line 3, the Summary of the Invention section, And insert therefor the following:

[In accordance with the present invention, these and other objects have been provided in an absorbent article for use in the perineal area of a user's body to absorb body fluid, said absorbent article having right and left lateral sides and first and second transverse ends, said absorbent article comprising:

a) a fluid pervious first layer forming a body faceable surface;

b) a fluid impervious second layer forming a garment faceable surface opposite the body faceable surface;

c) an absorbent core positioned between the first layer and the second layer;

d) right and left longitudinally extending cuffs, the cuffs having a base portion and a distal end, each of the cuffs comprising a longitudinal strip of a resilient, highloft, fluid permeable material which is covered, at least in part, with a flexible, fluid repellent porous material, and wherein the right and left longitudinally extending cuffs are attached along their respective base portions to the right and left lateral sides of the absorbent article, respectively, such that the distal ends of the cuffs extend outward from the right and left lateral sides of the absorbent article.

Also provided in accordance with the present invention is an absorbent article for absorbing fluid in the perineal area of the user's body and adapted for use in conjunction with an undergarment having a crotch portion having right and left edges, the absorbent article comprising:

a) a fluid pervious first layer forming a body faceable surface, a fluid impervious second layer forming a garment faceable surface opposite the body faceable surface, an absorbent core between the first and second layers and having right and left longitudinally extending opposing sides, the first and second layers having first joining means for joining the first and second layers, thereby forming right and left flanges adjacent the right and left sides of the absorbent core, respectively;

b) right and left longitudinally extending cuffs, each cuff comprising a longitudinal strip of a resilient, highloft, fluid permeable material which is covered, at least in part, with a flexible, fluid repellent porous material, each cuff having a base portion and a distal end, wherein each cuff is attached along its respective base portion to the absorbent article adjacent the right and left flanges and wherein the distal end of each cuff extends outward therefrom, whereby the distal ends of the cuffs are compressed against a portion of the user's body in use;

c) right and left wings each having a base portion and a distal end portion, the base portion being attached to the fluid impervious layer inwardly from the lateral edges of the absorbent article, thereby forming right and left pockets, the distal end portion adapted to fold over and retain the right and left edges of the undergarment crotch portion in the right and left pockets, respectively.

Also provided in accordance with the present invention is an absorbent article for use in the perineal area of a user's body to absorb body fluid, the absorbent article having right and left lateral sides and first and second transverse ends, the absorbent article comprising:

a) a fluid pervious first layer forming a body faceable surface;

b) a fluid impervious second layer forming a garment faceable surface opposite the body faceable surface;

c) an absorbent core positioned between the first layer and the second layer wherein the first layer has right and left approximately longitudinally extending edges, and the second layer has right and left approximately longitudinally extending edges, and wherein the first layer is joined to the second layer adjacent to their respective right and left edges so as to form right and left flanges, wherein the right and left flanges are adjacent the right and left lateral sides of the absorbent article;

d) right and left longitudinally extending cuffs, the cuffs having a base portion and a distal end, each of the cuffs comprising a longitudinal strip of a resilient, fluid permeable, highloft material, and a longitudinal strip of an apertured polymeric film which encloses the highloft material along at least a substantial portion of its length and wherein the right and left longitudinally extending cuffs are adhered along their respective base portions to the right and left lateral sides of the absorbent article, respectively, such that the distal ends of the cuffs extend outward from the right and left flanges;

e) right and left wings each having a base portion and a distal end portion, the right and left wings attached at their respective base portions to the right and left flanges, respectively, and forming a part thereof, and the distal ends being foldable over a crotch portion of a user's undergarment.]

In accordance with the present invention, there has been provided an absorbent article for use in the An absorbent article for use in a perineal area of a user's body to absorb body fluid, the absorbent article comprising: a) a fluid pervious first layer forming a top body faceable surface; b) a fluid impervious second layer forming a bottom garment faceable surface opposite the body faceable surface; c) an absorbent core positioned between the

first layer and the second layer; d) right and left cuffs which extend along a substantial portion of opposite right and left lateral sides of the absorbent article, respectively, the cuffs being located in at least a central portion of the absorbent article, each cuff having a base portion and a distal end, each cuff comprising an inner layer comprising a strip of resilient, highloft, fluid permeable material, and an outer layer comprising a flexible, fluid repellent porous material, said outer layer substantially covering said inner layer, and wherein the right and left cuffs are attached along their respective base portions to the right and left lateral sides of the absorbent article, respectively, such that the distal ends of the cuffs extend outward from the right and left lateral sides of the absorbent article, respectively.

On page 16, lines 1-21, please amend this paragraph as follows:

The strip of high loft material [47] may be formed from a fibrous woven or nonwoven flexible fabric that is soft, comfortable, and cushiony, to provide a comfortable "feel" to the user, and also possesses an open, fluid-permeable structure, i.e., having void spaces which are capable of holding or retaining fluid, and which may optionally be capable of drawing fluid away from the fluid repellent porous material which covers the high loft material to provide a 'clean-dry' appearance to the cuff. As used herein the term 'high loft material' refers to materials which either as a single layer or as a multi-layer laminate provide a total thickness of the cuff of at least 25 mils. The exact thickness of either the high loft material or the fluid [repellant] repellent porous material is not per se critical to the invention, provided of course, that the total thickness of the cuff is at least 25 mils,

preferably at least 40 mils, and most preferably between 40 and 80 mils. The strip of high loft material [47] may be wicking or non-wicking, and is preferably non-wicking so as not to promote the flow of fluid beyond the cuff [6].

On page 18, last paragraph, please re-write the paragraph as follows:

Suitable materials for use as the fluid repellent porous material include, but are not limited to, any of the conventional fluid repellent materials used as fluid pervious cover layers in commercially available absorbent sanitary products such as apertured polymeric films, nonwoven fabrics and woven fabrics. A preferred material for use as the fluid repellent porous material is a hydrophobic apertured polymeric film. In a most preferred embodiment, the apertured polymeric film is applied as a separate strip of material which is attached to the side cuffs while the film is tensioned in an amount sufficient to form the absorbent article into an arcuate shape along a longitudinal dimension of the article. Alternatively, it is also possible to use the same apertured polymeric film which was used as the cover layer to simultaneously form the side cuffs as shown in [Figure] Figures 12 - 13. In another embodiment of the invention, each of the cuffs comprises a laminated structure having a top layer and a bottom layer, wherein one or more layers of polymeric film or polymeric foam material are laminated to one or more layers of the resilient, fluid permeable, highloft material, with the proviso that the top layer of the laminated structure comprises a fluid permeable material. Optionally, one of the layers of polymeric film or polymeric foam material is tensioned prior to being laminated to the one or more layers of the resilient, fluid permeable, highloft material.

On page 21, please re-write the last paragraph as follows:

The barrier layer 9 generally comprises a single sheet of material having a surface area sufficient to cover the entire garment-faceable surface 17 of the absorbent article. The fluid impervious barrier layer 9 may extend around the sides of the core 7 in a C-shaped configuration [(not] as shown[]] in Figure 9 with the portions 10 of the barrier layer that are adjacent its longitudinal edges 32 extending upwardly from the garment faceable surface 17 toward the body faceable surface 16 so as to form a portion of the lateral sides 30 of the absorbent article 1.

On page 22, please re-write the last paragraph as follows:

In yet another alternate embodiment of the absorbent article according to the current invention is shown in Figure 13 (b). According to this embodiment, the cuff further contains a elastic element 14 in the form of a substantially flat strip of a flexible resilient material [14] attached to the barrier layer 10. The [strip] elastic element 14 may be formed from a cross-linked foam, such as VOLARA, supplied by Voltek, a division of Sekisui America Corporation of Lawrence, MA, having a thickness in the range of approximately 0.03 to 0.12 inch. The [strip] elastic element 14 is advantageously disposed between the portion 10 of the barrier layer 10 and the high loft material 47 adjacent their longitudinal edges respectively, and attached via adhesive to each. Moreover, as shown in Figure 9, the barrier layer portion 9 may be extended so as to cover substantially all of the outward facing surface of the cuff, thereby further preventing leakage.

elastic element is placed in tension by extending it at least 15% when it is attached to the ends of the cuff. When released, the elastic element returns to its approximate original length, thereby forcing the article into an arcuate shape. In yet another alternative embodiment, the length of the elastic member may optionally span only a portion of the cuff length while still being placed in tension so as to impart an arcuate shape. In the preferred embodiment, the elastic element extends at least 30% of the length of the cuff.

On page 33, beginning at line 22, please re-write this paragraph as follows:

As shown in Figure 11(b), the cuff 6 could be formed by joining the interior surfaces of the two portions 55 of the strip of material [55] adjacent its longitudinal edges directly together, and then attaching the inward facing surface of cuff 6 to the outward facing surface of the portion 10 of the barrier layer 9 adjacent its longitudinal edge 32 and attaching the inward facing surface of the portion of the barrier layer adjacent its longitudinal edge to the outward facing surface of the portion 18 of the cover layer 8 adjacent its longitudinal edge 33 so that the portion 10 of the barrier layer 9 is disposed between the cuff and the portion 18 of the cover layer 8. Also, as shown in Figure 11(c), the outward facing surface of the cuff 6 could be attached to the inward facing surface of the portion 10 of the barrier layer and the inward facing surface of the cuff attached to the outward facing surface of the portion 18 of the cover layer so that the cuff is disposed between the portions 10 and 18 of the barrier layer and cover layer, respectively.

On page 37, please re-write the first paragraph as follows:

substantially flat, i.e. the cuffs preferably remain in a plane which is substantially parallel to the cover layer and/or the barrier layer of the absorbent article. However, the cuffs may optionally extend a distance above the body faceable surface 16 of the central portion 2 -- specifically, above the portion of the body faceable surface 16 that is adjacent the sides 30 of the central portion. In accordance with this aspect of the current invention, the distance by which the cuffs extend above the adjacent portion of the body faceable surface 16 may be greater than zero to enhance a sealing contact with the user's body, as shown in Figure 8. However, this distance must not be so great, notwithstanding the aforementioned directional stability, that the cuffs 6 fold inwardly over the body faceable surface 16 in use, thereby covering a substantial portion of the body faceable surface and preventing it from passing fluid to the absorbent core 7.

On page 30, please re-write the second paragraph as follows:

In one aspect of this embodiment, an elastic element 14, e.g., an elastic polyurethane foam, is laminated to the interior surface of the cuff 6, as shown in Figure 7(b). In this embodiment, the elastic element [47] 14 extends essentially the length of the cuff 6 and may be attached to the cuff at its ends. The elastic element 14 may be tensioned or untensioned, where, in its untensioned state, the elastic element provides enhanced resilience to maintain the side cuffs ability to retain their original shape after the application of deformation forces from a user's thighs. Alternatively, the elastic foam may be applied to the absorbent article in tension to impart an arcuate shape to the absorbent article. In this embodiment, the elastic element, in its non-deformed state, is shorter than the cuff 6 so that the

Figure 13(a), 13(b) and 13(c) show three embodiments of the cuffs 6 shown in Figure 12. As previously discussed, a cavity 36 can be formed inside the cuff so as to impart additional compliancy to the cuff 6. Moreover, a strip of elastic foam 14, placed in tension when applied to the absorbent article, can be disposed within the laminate to impart the aforementioned arcuate shape to the article. Additionally, a layer of porous, high loft foam 47 could be laminated to the inner surface of portion 18 of the cover layer 8 to further increase the compliancy of the cuff, as shown in the embodiment in Figure 13(b). Alternatively, the porous high loft foam [46] 47 could be laminated to the outer surface of cover layer portion 18. As shown in Figure 13(c), a strip of elastic foam 47 placed in tension can be wrapped around the barrier layer portion 10 to provide both compliancy and shaping. In the embodiment shown in Figure 13(c), the cavity 36 has been eliminated, relying entirely on the foam strip 47 for compliancy.